



## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 224

[Docket No. 210427-0091]

RTID 0648-XR115

### Endangered and Threatened Species; Removal of *Siderastrea glynni* from the Federal List of Threatened and Endangered Species

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Proposed rule; request for comments.

**SUMMARY:** We, NMFS, are issuing a proposed rule to remove a coral, *Siderastrea glynni*, from the Federal List of Threatened and Endangered Species as recommended in the recent 5-year review of the species under the Endangered Species Act (ESA). We propose this action based on recently obtained genetic and morphological information that demonstrates that *S. glynni* does not meet the statutory definition of a species, and therefore does not qualify for listing under the ESA.

**DATES:** Information and comments on the subject action must be received by [insert date 60 days after date of publication in the Federal Register].

**ADDRESSES:** You may submit comments on this document, identified by NOAA-NMFS-2020-0165, by the following method:

- *Electronic Submissions:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to <https://www.regulations.gov> and enter NOAA-NMFS-2020-0165 in the Search box. Click on the “Comment” icon, complete the required fields, and enter or attach your comments.

*Instructions:* You must submit comments by the above method to ensure that we receive, document, and consider them. Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on [www.regulations.gov](http://www.regulations.gov) without change. All personal identifying information (*e.g.*, name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. We will accept anonymous comments (enter “N/A” in the required fields if you wish to remain anonymous).

**FOR FURTHER INFORMATION CONTACT:** Adrienne Lohe, NMFS  
Office of Protected Resources, [Adrienne.Lohe@noaa.gov](mailto:Adrienne.Lohe@noaa.gov), (301) 427-8442.

**SUPPLEMENTARY INFORMATION:**

**Background**

On July 15, 2013, WildEarth Guardians petitioned us to list 81 marine species, including *Siderastrea glynni*, as threatened or endangered under the ESA and to designate critical habitat. On October 25, 2013, we found that the petition presented substantial scientific information indicating that listing three species of foreign corals, including *S. glynni*, may be warranted, and initiated a Status Review (78 FR 63941).

The Status Review (Meadows 2014) used the best available scientific and commercial data to consider the status of and extinction risk to each of the three species. The Status Review noted genetic similarities between *S. glynni* (occurring in the eastern Pacific) and the Caribbean coral species *Siderastrea siderea* but ultimately concluded that *S. glynni* was a valid and unique species until more precise genetic studies could resolve the uncertainty about its status. Based on the

lack of known populations in the wild, a small captive population in a single location, low growth rate and genetic diversity, and potential increased threats from El Niño, climate change, disease and other development and habitat degradation should it be reintroduced to Panama, extinction risk for this species was assessed to be high. Informed by the Status Review and our interpretation of the best available scientific and commercial data, NMFS published a final rule to list the species as endangered under the ESA on October 7, 2015, and the listing became effective on November 6, 2015 (80 FR 60560).

On April 7, 2020, we announced a 5-year review (85 FR 19456) for three foreign coral species including *S. glynni*. The 5-year review was completed on September 16, 2020 (NMFS 2020), and is available at:

<https://www.fisheries.noaa.gov/resource/document/3-foreign-corals-5-year-review>. To complete the review, we collected, evaluated, and incorporated all information on the species that had become available since October 2015, the date of the final listing rule, including newly obtained genetic and morphological information relating to its taxonomy. This newly obtained information and the 5-year review inform the conclusions in this proposed rule.

### **New Information Regarding Species Taxonomy**

The discovery of *S. glynni* occurred in 1992 at Urabá Island, Panama Gulf, where five live colonies of *Siderastrea* sp. were found, one of which was collected and designated as the holotype for the new species (Budd and Guzmán 1994). The remaining four colonies of *S. glynni* were subsequently transplanted to aquaria at the Smithsonian Tropical Research Institute on Naos Island, Panama, and despite extensive search efforts, no other colonies have been found in the area (Glynn *et al.* 2016). The presence of the species in the eastern Pacific was noteworthy because the other extant *Siderastrea* species were only known to

occur in the western Pacific and the tropical Atlantic (Glynn *et al.* 2016).

Additionally, no fossil evidence exists for *Siderastrea* occurring in the eastern Pacific over the last 5 million years (LaJeunesse *et al.* 2016).

As reported in the Status Review, a study by Forsman *et al.* (2005) found *Siderastrea glynni* to be genetically very similar to the Caribbean coral species *Siderastrea siderea*. The study provided two possible explanations for these results: (1) that *S. siderea* and *S. glynni* are the same species and that *S. glynni* may have recently passed through or been carried across the Panama Canal to the Pacific Ocean side, or (2) that *S. glynni* evolved from *S. siderea*, likely about 2 to 2.3 million years ago during a period of high sea level when the Isthmus of Panama may have been breached, allowing inter-basin transfer of species' ancestors. The Status Review concluded that *S. glynni* was a valid and unique species until more precise genetic studies could resolve the uncertainty about its taxonomy.

The 5-year review synthesizes significant new information regarding the taxonomic classification of *S. glynni* that has become available since the species was listed as endangered. LaJeunesse *et al.* (2016) found *S. glynni* to host endosymbionts *Symbiodinium trenchii* and *Sy. goreau*, both of which occur in *S. siderea* in the Atlantic. (Based on recent taxonomic revisions to the family Symbiodiniaceae, these two endosymbionts are now identified as *Durisdinium trenchii* and *Cladocopium goreau*, respectively (LaJeunesse *et al.* 2017)). In fact, the study by LaJeunesse *et al.* (2016) provided the first record of both of these endosymbionts in the eastern Pacific. A comparison of the single multilocus genotype of *D. trenchii* found in all five *S. glynni* colonies to other *D. trenchii* genotypes from several regions around the world provide evidence that the *D. trenchii* genotype from the eastern Pacific originated from the Greater Caribbean.

The *D. trenchii* genotype found in the *S. glynni* colonies was an exact match to the *D. trenchii* genotype of a *S. siderea* colony in Curaçao, indicating that the presence of *D. trenchii* in the eastern Pacific is almost certainly a result of an introduction from the Atlantic (LaJeunesse *et al.* 2016). Furthermore, the genotype of *D. trenchii* recovered from *S. glynni* was found to be genetically distinct from other genotypes of closely related endosymbionts of family Symbiodiniaceae living in co-occurring eastern Pacific corals of the genus *Pocillopora*, and is therefore atypical of the region (LaJeunesse *et al.* 2016). More recently, the closely related endosymbiont in the eastern Pacific was identified as a new species (*Durusdinium glynni*) distinct from *D. trenchii*, further supporting their differentiation (Wham *et al.* 2017). LaJeunesse *et al.* (2016) conclude that *S. glynni* is likely to be *S. siderea* introduced from the Atlantic.

Glynn *et al.* (2016) discuss several lines of evidence further supporting the synonymy of *S. glynni* and *S. siderea*. First, the authors discuss the location and timing of the introduction of *S. siderea* to the site where *S. glynni* was discovered. In the early 1980s, blocks of *S. siderea* skeletons were transplanted from the Caribbean side of Panama to a reef at Urabá Island in the eastern Pacific as part of a comparative study of bioerosion (Kleemann 1990). After a period of several months, regenerating patches of *S. siderea* on the blocks were apparent; several fragments from these blocks were redeposited on the Urabá patch reef (the same site where *S. glynni* was discovered) in 1982 and were not retrieved (Glynn *et al.* 2016). Using the initial size (approximately 1 cm diameter) and expected growth rate (5.2 mm per year over a 10-year period) of the introduced *S. siderea* fragments, a 10 cm spherical colony would be expected after 10 years (Glynn *et al.* 2016). The five colonies found in 1992 measured between 7 and 10 cm in diameter, supporting the timeline of introduction (Budd and Guzmán 1994).

Glynn *et al.* (2016) also provide morphological evidence for the proposed synonymy. Despite observed variability in micro-skeletal traits among *S. siderea*, *S. radians*, and the type specimen of *S. glynni*, a single-factor multivariate analysis of variance (MANOVA) showed no significant differences with respect to all of the examined traits across the three species ( $F_{3,17} = 2.2937$ ,  $p = 0.1146$ ) (Glynn *et al.* 2016). There are, however, morphological differences between the *S. glynni* specimens and *S. siderea* as initially described by Budd and Guzmán (1994), including growth form (*S. glynni* was found unattached while *S. siderea* is typically attached) as well as corallite wall structure, which was not quantified in the analysis by Glynn *et al.* (2016). The authors suggest that as the oceanic conditions in the Gulf of Panama are quite different from those in the Caribbean, certain skeletal features of the Pacific colonies could have been environmentally influenced, leading Budd and Guzmán to declare the discovered colonies a new species of *Siderastrea* (Glynn *et al.* 2016).

Based on this substantial evidence, Glynn *et al.* (2016) conclude that the live fragments of *S. siderea* deposited by Kleeman in 1982 are the same that were found by Guzmán in 1992, and therefore, that *S. glynni* should be considered a junior synonym of *S. siderea*. After reviewing the best available information, we agree that *S. glynni* is a synonym of *S. siderea* and not a separate taxonomic species or subspecies. It cannot qualify as a distinct population segment (DPS) under the statutory definition of a species because DPSs can be identified only for vertebrate fish or wildlife. Therefore, *S. glynni* does not meet the statutory definition of a species under the ESA.

### **Effects of Determination**

Under section 4(c)(1) and 4(c)(2) of the ESA, the Secretary shall undertake a 5-year review of a listed species and consider, among other things,

whether a species' listing status should be changed. Pursuant to implementing regulations at 50 CFR 424.11(e), a species shall be delisted if the Secretary of Commerce finds that, after conducting a status review based on the best scientific and commercial data available:

- 1) The species is extinct;
- 2) The species does not meet the definition of an endangered species or a threatened species; or
- 3) The listed entity does not meet the statutory definition of a species.

We are proposing to remove *S. glynni* from the Federal List of Threatened and Endangered Species because the new genetic and morphological data evaluated and interpreted in the context of the best available data indicate that the listed entity is a junior synonym of *S. siderea* and does not meet the statutory definition of a species. If *S. glynni* is delisted, then the protections of the ESA would no longer apply. In addition, because *Siderastrea siderea* is not listed as an endangered species or threatened species under the ESA, our proposed delisting of *S. glynni* would have no effect on *S. siderea*.

Per the joint NMFS-U.S. Fish and Wildlife Service Post-Delisting Monitoring Plan Guidance (2008, updated in 2018), the post-delisting monitoring requirements of section 4(g) of the ESA apply without exception to all species delisted due to biological recovery, but do not pertain to species delisted for other reasons. Based on this reasoning, there is no need for a post-delisting monitoring plan for *S. glynni*.

## References Cited

The complete citations for the references used in this document can be obtained by contacting NMFS (See **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**).

## **Information Quality Act and Peer Review**

In December 2004, the Office of Management and Budget (OMB) issued a Final Information Quality Bulletin for Peer Review establishing minimum peer review standards, a transparent process for public disclosure of peer review planning, and opportunities for public participation. The OMB Peer Review Bulletin, implemented under the Information Quality Act (Pub. L. 106-554), is intended to enhance the quality and credibility of the Federal government's scientific information, and applies to influential or highly influential scientific information disseminated on or after June 16, 2005.

To satisfy our requirements under the OMB Peer Review Bulletin, this proposed rule was subject to peer review in accordance with the Bulletin. A peer review plan was posted on the NOAA peer review agenda and can be found at the following website: <https://www.noaa.gov/organization/information-technology/information-quality-peer-review-id423>. The agency did not receive public comments on the plan. Our synthesis and assessment of scientific information supporting this proposed action was peer reviewed via individual letters soliciting the expert opinions of four qualified specialists selected from the academic and scientific community. The charge to the peer reviewers and the peer review report have been placed in the administrative record and posted on the agency's peer review agenda. In meeting the OMB Peer Review Bulletin requirements, we have also satisfied the requirements of the 1994 joint U.S. Fish and Wildlife Service/NMFS peer review policy (59 FR 34270; July 1, 1994).

## **Classification**

### *National Environmental Policy Act (NEPA)*

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing to the best



scientific and commercial data available. Based on this limitation of criteria for a listing decision and the opinion in *Pacific Legal Foundation v. Andrus*, 657 F. 2d 829 (6th Cir. 1981), we have concluded that NEPA does not apply to ESA listing actions. (See NOAA Administrative Order 216–6.)

*Executive Order 12866, Regulatory Flexibility Act, and Paperwork Reduction Act*

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the listing process. In addition, this proposed rule is exempt from review under Executive Order 12866. This proposed rule does not contain a collection of information requirement for the purposes of the Paperwork Reduction Act.

*Executive Order 13132, Federalism*

E.O. 13132 requires agencies to take into account any federalism impacts of regulations under development. It includes specific consultation directives for situations where a regulation will preempt state law, or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of these circumstances is applicable to this proposed rule.

**List of Subjects**

*50 CFR Part 224*

Endangered and threatened species.

Dated: April 27, 2021

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Samuel D. Rauch III,  
Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR part 224 is proposed to be amended as follows:

**PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES**

1. The authority citation for part 224 continues to read as follows:

**Authority:** 16 U.S.C. 1531-1543 and 16 U.S.C. 1361 *et seq.*

§ 224.101 [Amended]

2. In § 224.101, in the table in paragraph (h), under the subheading “Corals”, remove the entry for “Coral, [no common name] (*Siderastrea glynni*)”.

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